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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/573,839	NAKATANI ET AL.	
	Examiner	Art Unit	
	Andrew K. Bohaty	4132	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☒ Claim(s) *1-27* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *2006/03/29*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 23-27 objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n).

2. Claims 16, 18-21, and 23-27 are objected to because of the following informalities:

3. Regarding claims 16 and 18-21, the phrase **polymer complex compound according to Claim 1** should be corrected to **polymer complex compound of Claim 1**.

4. Regarding claims 23-27, the phrase **polymer light emitting device according to any of Claim 21 to 22** should be corrected to **polymer light emitting device of Claim 21 or 22**.

5. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-27 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Regarding claim 1, the phrases "X^1 and Ar^3 bond to adjacent carbon atoms in the aromatic ring of..." and "X^3 and Ar^4 bond to adjacent carbon atoms in the aromatic ring

of..." are indefinite. The scope of the claim is not clear given there claim requirements because Ar^3 and Ar^4 were defined earlier as either trivalent aromatic hydrocarbon groups or trivalent heterocyclic groups and a heterocyclic group is not necessarily an aromatic group. Also, an heterocyclic aromatic group does not necessarily have adjacent carbons.

9. Regarding claim 6, twice “y” is used as a subscript in a formula and “y” is not defined.

10. Regarding claim 6, the last line defines "b", but there is not "b" elsewhere in the claim.

11. Regarding claim 7, in formula (11) the variables "f" and "g" are not defined in the claim.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 1-11, 13, and 15-27 are rejected under 35 U.S.C. 102(a) as being anticipated by Doi et al. (WO 2004039859) (US 2008/013865 is used as the US equivalent) (hereafter “Doi").

14. With respect to claim 1, Doi teaches a polymer light emitting material which contains a polymer compound comprising a repeating unit of the following formula (1) or

(2) and having a polystyrene-reduced number-average molecular weight of 10^3 to 10^8 (paragraphs [0004]-[0006], formulae (1) and (2)), and which exhibits light emission from the triplet excited state (paragraphs [0071] and [0079]-[0081])

[wherein Ar^1 and Ar^2 each independently represent a trivalent aromatic hydrocarbon group or a trivalent heterocyclic group;

X^1 and X^2 each independently represent O, S, C(=O), S(=O), SO_2, $C(R^1)(R^2)$, $Si(R^3)(R^4)$, $N(R^5)$, $B(R^6)$, $P(R^7)$ or $P(=O)(R^8)$, (wherein R^1, R^2, R^3, R^4, R^5, R^6, R^7 and R^8 each independently represent a hydrogen atom, halogen atom, alkyl group, alkyloxy group, alkylthio group, aryl group, aryloxy group, arylthio group, arylalkyl group, arylalkyloxy group, arylalkylthio group, acyl group, acyloxy group, amide group, acid imide group, imine residue, amino group, substituted amino group, substituted silyl group, substituted silyloxy group, substituted silylthio group, substituted silylamino group, monovalent heterocyclic group, heteroaryloxy group, heteroarylthio group, arylalkenyl group, arylethynyl group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group (paragraphs [0004]-[0006], formulae (1) and (2));

(R^1 and R^2) or (R^3 and R^4) may mutually be connected to form a ring); wherein X^1 and X^2 are not the same excepting the case of S or $Si(R^3)(R^4)$;

X^1 and Ar^2 bond to adjacent carbon atoms in the aromatic ring of Ar^1, and X^2 and Ar^1 bond to adjacent carbon atoms in the aromatic ring of Ar^2;

[wherein Ar^3 and Ar^4 each independently represent a trivalent aromatic hydrocarbon group or a trivalent heterocyclic group (paragraphs [0004]-[0006], formulae (1) and (2));

X^3 and X^4 each independently represent N, B, P, $C(R^9)$ or $Si(R^{10})$, (wherein R^9 and R^{10} each independently represent a hydrogen atom, halogen atom, alkyl group, alkyloxy group, alkylthio group, aryl group, aryloxy group, arylthio group, arylalkyl group, arylalkyloxy group, arylalkylthio group, acyl group, acyloxy group, amide group, acid imide group, imine residue, amino group, substituted amino group, substituted silyl group, substituted silyloxy group, substituted silylthio group, substituted silylamino group, monovalent heterocyclic group, heteroaryloxy group, heteroarylthio group, arylalkenyl group, arylethynyl group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryl-oxycarbonyl group or cyano group) (paragraphs [0004]-[0006], formulae (1) and (2));

X^3 and X^4 are not the same; and X^3 and Ar^4 bond to adjacent carbon atoms in the aromatic ring of Ar^3, and X^4 and Ar^3 bond to adjacent carbon atoms in the aromatic ring of Ar^4] (paragraphs [0004]-[0006], formulae (1) and (2)).

15. With respect to claim 2, Doi teaches the polymer light emitting material according to claim 1, wherein X^1 in the formula (1) is $C(R^1)(R^2)$, $Si(R^3)(R^4)$, $N(R^5)$, $B(R^6)$, $P(R^7)$ or $P(=O)(R^8)$ (wherein, R^1 to R^8 represent the same meaning as defined above) (paragraph [0021]).

16. With respect to claim 3, Doi teaches the polymer light emitting material according to claim 1 or 2, wherein the repeating unit represented by the formula (1) defined above is a repeating unit represented by following formula (3) (paragraphs [0027] and [0028], formula (3)):

[wherein Ar^1 and Ar^2 represent the same meaning as defined above;

R^{11} and R^{12} each independently represent a hydrogen atom, halogen atom, alkyl group, aryl group, arylalkyl group or monovalent heterocyclic group; R^{11} and R^{12} may mutually be connected to form a ring; and

X^5 represents O, S, C(=O), S(=O), SO_2, $Si(R^3)(R^4)$, $N(R^5)$, $B(R^6)$, $P(R^7)$ or $P(=O)(R^8)$ (wherein, R^3, R^4, R^5, R^6, R^7 and R^8 represent the same meaning as defined above)] (paragraphs [0027] and [0028], formula (3)).

17. With respect to claim 4, Doi teaches the polymer light emitting material according to claim 3, wherein the repeating unit represented by the formula (3) defined above is a repeating unit represented by following formula (4) (paragraphs [0027] and [0029], formula (4)):

[wherein X^5, R^{11} and R^{12} represent the same meaning as defined above. R^{13}, R^{14}, R^{15}, R^{16}, R^{17} and R^{18} each independently represent a hydrogen atom, halogen atom, alkyl group, alkyloxy group, alkylthio group, aryl group, aryloxy group, arylthio group, arylalkyl group, arylalkyloxy group, arylalkylthio group, acyl group, acyloxy group, amide group, acid imide group, imine residue, amino group, substituted amino group, substituted silyl group, substituted silyloxy group, substituted silylthio group, substituted silylamino group, monovalent heterocyclic group, heteroaryloxy group, heteroarylthio group, arylalkenyl group, arylethynyl group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group; and

(R^{14} and R^{15}) or (R^{16} and R^{17}) may mutually be connected to form a ring] (paragraphs [0027] and [0029], formula (4)).

18. With respect to claim 5, Doi teaches the polymer light emitting material according to claim 4 wherein X^5 is an oxygen atom (paragraph [0030]).

19. With respect to claim 6, Doi teaches the polymer light emitting material according to claim 1, further having a repeating unit represented by the following formula (5), (6), (7) or (8) (paragraphs [0065]-[0066], formulae (5)-(8)):

[wherein Ar^5, Ar^6 and Ar^7 each independently represent an arylene group, divalent heterocyclic group or divalent group having a metal complex structure;

X^6 represents -C≡C-, -N(R^{21})- or -($SiR^{22}R^{23}$)$_y$-;

X^7 represents -CR^{19}=CR^{20}-, -C≡C-, -N(R^{21})- or -($SiR^{22}R^{23}$)$_y$-;

R^{19} and R^{20} each independently represent a hydrogen atom, alkyl group, aryl group, monovalent heterocyclic group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group;

R^{21}, R^{22} and R^{23} each independently represent a hydrogen atom, alkyl group, aryl group, monovalent heterocyclic group or arylalkyl group; and

a represents an integer of 0 or 1 and b represents an integer of 1 to 12] (paragraphs [0065]-[0066], formulae (5)-(8)).

20. With respect to claim 7, Doi teaches the polymer light emitting material according to claim 6 wherein the formula (5) is a repeating unit represented by the following formula (9), (10), (11), (12), (13) or (14) (paragraphs [0083]-[0095], formulae (9)-(14)): Formula (9) (formula (9)) [wherein R^{24} represents a halogen atom, alkyl group, alkyloxy group, alkylthio group, aryl group, aryloxy group, arylthio group, arylalkyl group,

arylalkyloxy group, arylalkylthio group, acyl group, acyloxy group, amide group, acid imide group, imine residue, amino group, substituted amino group, substituted silyl group, substituted silyloxy group, substituted silylthio group, substituted silylamino group, monovalent heterocyclic group, heteroaryloxy group, heteroarylthio group, arylalkenyl group, arylethynyl group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group. c represents an integer of 0 to 4] (paragraphs [0083]-[0085]);

Formula (10) (formula (10)) [wherein R^{25} and R^{26} each independently represent a halogen atom, alkyl group, alkyloxy group, alkylthio group, aryl group, aryloxy group, arylthio group, arylalkyl group, arylalkyloxy group, arylalkylthio group, acyl group, acyloxy group, amide group, acid imide group, imine residue, amino group, substituted amino group, substituted silyl group, substituted silyloxy group, substituted silylthio group, substituted silylamino group, monovalent heterocyclic group, heteroaryloxy group, heteroarylthio group, arylalkenyl group, arylethynyl group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group;

d and e each independently represent an integer of 0 to 3] (paragraphs [0086]-[0087]);

Formula (11) (formula (11)) [wherein R^{27} and R^{30} each independently represent a halogen atom, alkyl group, alkyloxy group, alkylthio group, aryl group, aryloxy group, arylthio group, arylalkyl group, arylalkyloxy group, arylalkylthio group, acyl group, acyloxy group, amide group, acid imide group, imine residue, amino group, substituted

amino group, substituted silyl group, substituted silyloxy group, substituted silylthio group, substituted silylamino group, monovalent heterocyclic group, heteroaryloxy group, heteroarylthio group, arylalkenyl group, arylethynyl group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group;

R^{28} and R^{29} each independently represent a hydrogen atom, alkyl group, aryl group, monovalent heterocyclic group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group] (paragraphs [0088]-[0089]);

Formula (12) (formula (12)) [wherein R^{31} represents a halogen atom, alkyl group, alkyloxy group, alkylthio group, aryl group, aryloxy group, arylthio group, arylalkyl group, arylalkyloxy group, arylalkylthio group, acyl group, acyloxy group, amide group, acid imide group, imine residue, amino group, substituted amino group, substituted silyl group, substituted silyloxy group, substituted silylthio group, substituted silylamino group, monovalent heterocyclic group, heteroaryloxy group, heteroarylthio group, arylalkenyl group, arylethynyl group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group;

h represents an integer of 0 to 2. Ar^8 and Ar^9 each independently represent an arylene group, divalent heterocyclic group or divalent group having a metal complex structure;

i and j each independently represent an integer of 0 or 1;

X^8 represents O, S, SO, SO_2, Se or Te] (paragraphs [0090]-0091]);

Formula (13) (formula (13)) [wherein R^{32} and R^{33} each independently represent a halogen atom, alkyl group, alkyloxy group, alkylthio group, aryl group, aryloxy group, arylthio group, arylalkyl group, arylalkyloxy group, arylalkylthio group, acyl group, acyloxy group, amide group, acid imide group, imine residue, amino group, substituted amino group, substituted silyl group, substituted silyloxy group, substituted silylthio group, substituted silylamino group, monovalent heterocyclic group, heteroaryloxy group, heteroarylthio group, arylalkenyl group, arylethynyl group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group;

k and l each independently represent an integer of 0 to 4;

X^9 represents O, S, SO, SO_2, Se, Te, N-R^{34} or $SiR^{35}R^{36}$;

X^{10} and X^{11} each independently represent N or C-R^{37}. R^{34}, R^{35}, R^{36} and R^{37} each independently represent a hydrogen atom, alkyl group, aryl group, arylalkyl group or monovalent heterocyclic group] (paragraphs [0092]-[0093]); and

Formula (14) (formula (14)) [wherein R^{38} and R^{43} each independently represent a halogen atoms, alkyl group, alkyloxy group, alkylthio group, aryl group, aryloxy group, arylthio group, arylalkyl group, arylalkyloxy group, arylalkylthio group, acyl group, acyloxy group, amide group, acid imide group, imine residue, amino group, substituted amino group, substituted silyl group, substituted silyloxy group, substituted silylthio group, substituted silylamino group, monovalent heterocyclic group, heteroaryloxy group, heteroarylthio group, arylalkenyl group, arylethynyl group, carboxyl group,

alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group;

m and n each independently represent an integer of 0 to 4;

R^{39}, R^{40}, R^{41} and R^{42} each independently represent a hydrogen atom, alkyl group, aryl group, monovalent heterocyclic group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group and

Ar^{10} represents an arylene group, divalent heterocyclic group or divalent group having a metal complex structure] (paragraphs [0094]-[0095]).

21. With respect to claim 8, Doi teaches the polymer light emitting material according to claim 6 wherein the repeating unit represented by the above defined formula (5) is a repeating unit represented by formula (15) (paragraphs [0096]-[0097], formula (15)): [wherein Ar^{11}, Ar^{12}, Ar^{13} and Ar^{14} each independently represent an arylene group or divalent heterocyclic group;

Ar^{15}, Ar^{16} and Ar^{17} each independently represent an arylene group or monovalent heterocyclic group; and

o and p each independently represent an integer of 0 or 1, and $0 \leq o+p \leq 1$] (paragraphs [0096]-[0097]).

22. With a respect to claim 9, Doi teaches the polymer light emitting material according to claim 1 wherein the total amount of the repeating unit represented by the formulas (1) and (2) is 10% by mole or more based on an amount of whole repeating units (paragraph [0064]).

23. With respect to claim 10, Doi teaches the polymer light emitting material according to claim 1 further including at least one kind of materials selected from a hole transporting material, an electron transporting material and a light emitting material (paragraphs [0234], [0237], [0071], and [0079]-[0081]).

24. With respect to claim 11, Doi teaches the polymer light emitting material according to claim 1 comprising a compound exhibiting light emission from the triplet excited state in the form of a composition with a polymer compound having a repeating unit represented by the formula (1) or (2) (paragraphs [0064]-[0066], [0071], and [0079]-[0081]).

25. With respect to claim 13, Doi teaches the polymer light emitting material according to claim 1 having a structure exhibiting light emission from the triplet excited state at a main chain of a polymer compound having a repeating unit represented by the formula (1) or (2) (paragraphs [0064]-[0066], [0071], and [0079]-[0081]).

26. With respect to claim 15, Doi teaches the polymer light emitting material according to claim 11, wherein a compound or structure exhibiting light emission from the triplet excited state is a metal complex (paragraphs [0064]-[0066], [0071], and [0079]-[0081]).

27. With respect to claim 16, Doi teaches an ink composition comprising a polymer light emitting material according to claim 1 (paragraph [0247]).

28. With respect to claim 17, Doi teaches the ink composition according to claim 16 having 1 to 100 mPa·s of viscosity at 25°C (paragraph [0250]).

29. With respect to claim 18, Doi teaches a light emitting thin film comprising a polymer light emitting material according to claim 1 (paragraph [0232]).

With respect to claim 19, Doi teaches a conductive thin film comprising a polymer light emitting material according to claim 1 (paragraph [0232]).

30. With respect to claim 20, Doi teaches an organic semiconductor thin film comprising a polymer light emitting material according to claim 1 (paragraph [0232]).

31. With respect to claim 21, Doi teaches a polymer light emitting device having a layer comprising a polymer light emitting material according to claim 1 between electrodes consisting of an anode and a cathode (paragraph [0234]).

32. With respect to claim 22, Doi teaches the polymer light emitting device according to claim 21, wherein the light emission layer further comprises a hole transporting material, an electron transporting material or a light-emitting material (paragraph [0237]).

33. With respect to claim 23, Doi teaches a flat light source comprising a polymer light emitting device according to any of claims 21 to 22 (paragraphs [0231] and [0295]-[0297]).

34. With respect to claim 24, Doi teaches a segment display comprising a polymer light emitting device according to any of claims 21 to 22 (paragraphs [0231] and [0295]-[0297]).

35. With respect to claim 25, Doi teaches a dot matrix display comprising a polymer light emitting device according to any of claims 21 to 22 (paragraphs [0231] and [0295]-[0297]).

36. With respect to claim 26, Doi teaches a liquid crystal display comprising a backlight composed of a polymer light emitting device according to any of claims 21 to 22 (paragraphs [0231] and [0295]-[0297]).

37. With respect to claim 27, Doi teaches an illumination comprising a polymer light emitting device according to any of claims 21 to 22 (paragraphs [0231] and [0295]-[0297]).

38. Claims 1, 2, 6, 8-11, 13, 15, and 18-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Kobayashi et al. (US 2003/0168656) (hereafter "Kobayashi").

39. With respect to claim 1, Kobayashi teaches a polymer light emitting material which contains a polymer compound comprising a repeating unit of the following formula (1) and having a polystyrene-reduced number-average molecular weight of 10^3 to 10^8, and which exhibits light emission from the triplet excited state (paragraphs [0005]-[0009]), [0050]-[0051], and [0064], formulae (1) and (7))

[wherein Ar^1 and Ar^2 each independently represent a trivalent aromatic hydrocarbon group;

X^1 and X^2 each independently represent S, S(=O), SO_2, $Si(R^3)(R^4)$, $P(R^7)$ or $P(=O)(R^8)$, (wherein R^1, R^2, R^3, R^4, R^5, R^6, R^7 and R^8 each independently represent a hydrogen atom, halogen atom, alkyl group, alkyloxy group, alkylthio group, aryl group, aryloxy group, arylthio group, arylalkyl group, arylalkyloxy group, arylalkylthio group, acyl group, acyloxy group, amide group, acid imide group, imine residue, amino group, substituted amino group, substituted silyl group, substituted silyloxy group, substituted silylthio group, substituted silylamino group, monovalent heterocyclic group,

heteroaryloxy group, heteroarylthio group, arylalkenyl group, arylethynyl group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group;

wherein X^1 and X^2 are not the same excepting the case of S or $Si(R^3)(R^4)$;

X^1 and Ar^2 bond to adjacent carbon atoms in the aromatic ring of Ar^1, and X^2 and Ar^1 bond to adjacent carbon atoms in the aromatic ring of Ar^2 (paragraphs [0005]-[0010]);

40. With respect to claim 2, Kobayashi teaches the polymer light emitting material according to claim 1, wherein X^1 in the formula (1) is $Si(R^3)(R^4)$, $P(R^7)$ or $P(=O)(R^8)$ (wherein, R^1 to R^8 represent the same meaning as defined above) (paragraphs [0005]-[0010]).

41. With respect to claim 6, Kobayashi teaches the polymer light emitting material according to claim 1, further having a repeating unit represented by the following formula (7) (paragraph [0050]-[0051], formula (7)):

[wherein Ar^5 represents an arylene group, divalent heterocyclic group or divalent group having a metal complex structure;

X^7 represents $-CR^{19}=CR^{20}-$] (paragraph [0050]-[0051] and [0064], formula (7)).

With respect to claim 8, Kobayashi teaches the polymer light emitting material according to claim 6 wherein the repeating unit represented by the above defined formula (5) is a repeating unit represented by formula (15) (paragraphs [0050], [0066]-[0067], and [0070], formulae (8) and (10)):

[wherein Ar^{11}, Ar^{13} and Ar^{14} each independently represent an arylene group or divalent heterocyclic group;

Ar^{16} and Ar^{17} (R^{15} and R^{16}) each independently represent an arylene group or monovalent heterocyclic group; and

o and p each independently represent an integer of 0 or 1, and $0 \leq o+p \leq 1$]

(paragraphs [0050], [0064], [0066]-[0067], and [0070], formulae (8) and (10)).

42. With respect to claim 9, Kobayashi teaches the polymer light emitting material according to claim 1 wherein the total amount of the repeating unit represented by the formulas (1) and (2) is 10% by mole or more based on an amount of whole repeating units (paragraph [0049]).

43. With respect to claim 10, Kobayashi teaches the polymer light emitting material according to claim 1 further including at least one kind of materials selected from a light emitting material (paragraphs [0050] and [0064]).

44. With respect to claim 11, Kobayashi teaches the polymer light emitting material according to claim 1 comprising a compound exhibiting light emission from the triplet excited state in the form of a composition with a polymer compound having a repeating unit represented by the formula (1) or (2) (paragraphs [0050] and [0064]).

45. With respect to claim 13, Kobayashi teaches the polymer light emitting material according to claim 1 having a structure exhibiting light emission from the triplet excited state at a main chain of a polymer compound having a repeating unit represented by the formula (1) or (2) (paragraphs [0050] and [0064]).

46. With respect to claim 15, Kobayashi teaches the polymer light emitting material according to claim 11, wherein a compound or structure exhibiting light emission from the triplet excited state is a metal complex (paragraphs [0050] and [0064]).

47. With respect to claim 18, Kobayashi teaches a light emitting thin film comprising a polymer light emitting material according to claim 1 (paragraph [0139]).

48. With respect to claim 19, Kobayashi teaches a conductive thin film comprising a polymer light emitting material according to claim 1 (paragraph [0139]).

49. With respect to claim 20, Kobayashi teaches an organic semiconductor thin film comprising a polymer light emitting material according to claim 1 (paragraph [0139]).

50. With respect to claim 21, Kobayashi teaches a polymer light emitting device having a layer comprising a polymer light emitting material according to claim 1 between electrodes consisting of an anode and a cathode (paragraph [0140]).

51. With respect to claim 22, Kobayashi teaches the polymer light emitting device according to claim 21, wherein the light emission layer further comprises a hole transporting material, an electron transporting material or a light-emitting material (paragraphs [0149] and [0189]).

52. With respect to claim 23, Kobayashi teaches a flat light source comprising a polymer light emitting device according to any of claims 21 to 22 (paragraphs [0219] and [0221]).

53. With respect to claim 24, Kobayashi teaches a segment display comprising a polymer light emitting device according to any of claims 21 to 22 (paragraph [0219]).

54. With respect to claim 25, Kobayashi teaches a dot matrix display comprising a polymer light emitting device according to any of claims 21 to 22 (paragraph [0219]).

55. With respect to claim 26, Kobayashi teaches a liquid crystal display comprising a backlight composed of a polymer light emitting device according to any of claims 21 to 22 (paragraphs [0219] and [0221]).

56. With respect to claim 27, Kobayashi teaches an illumination comprising a polymer light emitting device according to any of claims 21 to 22 (paragraphs [0219] and [0221]).

57. Claims 1-8, 10, 11, 13, and 15-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Oguma et al. (EP 1344788) (hereafter “Oguma").

58. With respect to claim 1, Oguma teaches a polymer light emitting material which contains a polymer compound comprising a repeating unit of the following formula (1) or (2) and having a polystyrene-reduced number-average molecular weight of 10^3 to 10^8, and which exhibits light emission from the triplet excited state (paragraphs [0056]-[0060] and [0063]-[0070], formula (5), compounds 29-32, 78, and 126-132)
[wherein Ar^1 and Ar^2 each independently represent a trivalent aromatic hydrocarbon group (compounds 31 and 32);

X^1 and X^2 each independently represent $C(R^1)(R^2)$, (wherein R^1 and R^2 each independently represent a hydrogen atom, halogen atom, alkyl group, alkyloxy group, alkylthio group, aryl group, aryloxy group, arylthio group, arylalkyl group, arylalkyloxy group, arylalkylthio group, acyl group, acyloxy group, amide group, acid imide group, imine residue, amino group, substituted amino group, substituted silyl group, substituted

silyloxy group, substituted silylthio group, substituted silylamino group, monovalent heterocyclic group, heteroaryloxy group, heteroarylthio group, arylalkenyl group, arylethynyl group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group (paragraph [0070]);

wherein X^1 and X^2 are not the same (paragraph [0070], R groups are individually selected, which means R^1 and R^2 on X^1 can be different than R^1 and R^2 on X^2);

X^1 and Ar^2 bond to adjacent carbon atoms in the aromatic ring of Ar^1, and X^2 and Ar^1 bond to adjacent carbon atoms in the aromatic ring of Ar^2;

[wherein Ar^3 and Ar^4 each independently represent a trivalent aromatic hydrocarbon group or a trivalent heterocyclic group (compounds 29, 30 and 78);

X^3 and X^4 each independently represent $C(R^9)$, (wherein R^9 each independently represent a hydrogen atom, halogen atom, alkyl group, alkyloxy group, alkylthio group, aryl group, aryloxy group, arylthio group, arylalkyl group, arylalkyloxy group, arylalkylthio group, acyl group, acyloxy group, amide group, acid imide group, imine residue, amino group, substituted amino group, substituted silyl group, substituted silyloxy group, substituted silylthio group, substituted silylamino group, monovalent heterocyclic group, heteroaryloxy group, heteroarylthio group, arylalkenyl group, arylethynyl group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryl-oxycarbonyl group or cyano group (paragraph [0070]));

X^3 and X^4 are not the same (paragraph [0070], R groups are individually selected, which means R^9 on X^3 can be different than R^9 on X^4); and X^3 and Ar^4 bond to

adjacent carbon atoms in the aromatic ring of Ar^3, and X^4 and Ar^3 bond to adjacent carbon atoms in the aromatic ring of Ar^4 (compounds 29, 30 and 78)].

59. With respect to claim 2, Oguma teaches the polymer light emitting material according to claim 1, wherein X^1 in the formula (1) is $C(R^1)(R^2)$ (wherein, R^1 to R^8 represent the same meaning as defined above) (paragraphs [0056]-[0060], formula (5), compounds 29-32).

60. With respect to claims 3-5, Oguma does not teach the further limitations of the repeating unit of formula (1) set about in claims 3-5, but claim 3-5 are not limited to polymers having a repeating unit of formula (1). Since Oguma does teach a polymer light emitting material which contains a polymer compound comprising a repeating unit of the following formula (2) (paragraphs [0056]-[0060], [0063]-[0064], and [0070], formula (5), compounds 29, 30 and 78), X^3 and X^4 are not the same (paragraph [0070], R groups are individually selected, which means R^9 on X^3 can be different than R^9 on X^4); and X^3 and Ar^4 bond to adjacent carbon atoms in the aromatic ring of Ar^3, and X^4 and Ar^3 bond to adjacent carbon atoms in the aromatic ring of Ar^4 (compounds 29, 30 and 78), Oguma teachings anticipate claims 3-5.

61. With respect to claim 6, Oguma teaches the polymer light emitting material according to claim 1, further having a repeating unit represented by the following formula (5), (6), (7) or (8) (paragraphs [0056]-[0058], formulae (5)-(6)):

[wherein Ar^5, Ar^6 and Ar^7 each independently represent an arylene group, divalent heterocyclic group or divalent group having a metal complex structure;

X^6 represents $-C\equiv C-$, $-N(R^{21})-$ or $-(SiR^{22}R^{23})_y-$;

X^7 represents $-CR^{19}=CR^{20}-$, $-C\equiv C-$, $-N(R^{21})-$ or $-(SiR^{22}R^{23})_y-$;

R^{19} and R^{20} each independently represent a hydrogen atom, alkyl group, aryl group, monovalent heterocyclic group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group;

R^{21}, R^{22} and R^{23} each independently represent a hydrogen atom, alkyl group, aryl group, monovalent heterocyclic group or arylalkyl group; and

a represents an integer of 0 or 1 and b represents an integer of 1 to 12] (paragraphs [0056]-[0058]).

62. With respect to claim 7, Oguma teaches the polymer light emitting material according to claim 6 wherein the formula (5) is a repeating unit represented by the following formula (9), (10), (11), (12), (13) or (14) (paragraphs [0070]-[0072], formulae (7)-(12)):

Formula (9) (formula (7)) [wherein R^{24} represents a halogen atom, alkyl group, alkyloxy group, alkylthio group, aryl group, aryloxy group, arylthio group, arylalkyl group, arylalkyloxy group, arylalkylthio group, acyl group, acyloxy group, amide group, acid imide group, imine residue, amino group, substituted amino group, substituted silyl group, substituted silyloxy group, substituted silylthio group, substituted silylamino group, monovalent heterocyclic group, heteroaryloxy group, heteroarylthio group, arylalkenyl group, arylethynyl group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group. c represents an integer of 0 to 4] (paragraphs [0070]-[0072]);

Formula (10) (formula (8)) [wherein R^{25} and R^{26} each independently represent a halogen atom, alkyl group, alkyloxy group, alkylthio group, aryl group, aryloxy group, arylthio group, arylalkyl group, arylalkyloxy group, arylalkylthio group, acyl group, acyloxy group, amide group, acid imide group, imine residue, amino group, substituted amino group, substituted silyl group, substituted silyloxy group, substituted silylthio group, substituted silylamino group, monovalent heterocyclic group, heteroaryloxy group, heteroarylthio group, arylalkenyl group, arylethynyl group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group;

d and e each independently represent an integer of 0 to 3] (paragraphs [0070]-[0072]);

Formula (11) (formula (9)) [wherein R^{27} and R^{30} each independently represent a halogen atom, alkyl group, alkyloxy group, alkylthio group, aryl group, aryloxy group, arylthio group, arylalkyl group, arylalkyloxy group, arylalkylthio group, acyl group, acyloxy group, amide group, acid imide group, imine residue, amino group, substituted amino group, substituted silyl group, substituted silyloxy group, substituted silylthio group, substituted silylamino group, monovalent heterocyclic group, heteroaryloxy group, heteroarylthio group, arylalkenyl group, arylethynyl group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group;

R^{28} and R^{29} each independently represent a hydrogen atom, alkyl group, aryl group, monovalent heterocyclic group, carboxyl group, alkoxycarbonyl group,

aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group] (paragraphs [0070]-[0072]);

Formula (12) (formula (10)) [wherein R^{31} represents a halogen atom, alkyl group, alkyloxy group, alkylthio group, aryl group, aryloxy group, arylthio group, arylalkyl group, arylalkyloxy group, arylalkylthio group, acyl group, acyloxy group, amide group, acid imide group, imine residue, amino group, substituted amino group, substituted silyl group, substituted silyloxy group, substituted silylthio group, substituted silylamino group, monovalent heterocyclic group, heteroaryloxy group, heteroarylthio group, arylalkenyl group, arylethynyl group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group;

h represents an integer of 0 to 2. Ar^8 and Ar^9 each independently represent an arylene group, divalent heterocyclic group or divalent group having a metal complex structure;

i and j each independently represent an integer of 0 or 1;

X^8 represents O, S, SO, SO_2, Se or Te] (paragraphs [0070]-[0072]);

Formula (13) (formula (11)) [wherein R^{32} and R^{33} each independently represent a halogen atom, alkyl group, alkyloxy group, alkylthio group, aryl group, aryloxy group, arylthio group, arylalkyl group, arylalkyloxy group, arylalkylthio group, acyl group, acyloxy group, amide group, acid imide group, imine residue, amino group, substituted amino group, substituted silyl group, substituted silyloxy group, substituted silylthio group, substituted silylamino group, monovalent heterocyclic group, heteroaryloxy

group, heteroarylthio group, arylalkenyl group, arylethynyl group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group;

k and l each independently represent an integer of 0 to 4;

X^9 represents O, S, SO, SO_2, Se, Te, N-R^{34} or $SiR^{35}R^{36}$;

X^{10} and X^{11} each independently represent N or C-R^{37}. R^{34}, R^{35}, R^{36} and R^{37} each independently represent a hydrogen atom, alkyl group, aryl group, arylalkyl group or monovalent heterocyclic group] (paragraphs [0070]-[0072]); and

Formula (14) (formula (12)) [wherein R^{38} and R^{43} each independently represent a halogen atoms, alkyl group, alkyloxy group, alkylthio group, aryl group, aryloxy group, arylthio group, arylalkyl group, arylalkyloxy group, arylalkylthio group, acyl group, acyloxy group, amide group, acid imide group, imine residue, amino group, substituted amino group, substituted silyl group, substituted silyloxy group, substituted silylthio group, substituted silylamino group, monovalent heterocyclic group, heteroaryloxy group, heteroarylthio group, arylalkenyl group, arylethynyl group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group;

m and n each independently represent an integer of 0 to 4;

R^{39}, R^{40}, R^{41} and R^{42} each independently represent a hydrogen atom, alkyl group, aryl group, monovalent heterocyclic group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group and

Ar^{10} represents an arylene group, divalent heterocyclic group or divalent group having a metal complex structure] (paragraphs [0070]-[0072]).

63. With respect to claim 8, Oguma teaches the polymer light emitting material according to claim 6 wherein the repeating unit represented by the above defined formula (5) is a repeating unit represented by formula (15) (paragraph [0073], formula (13)):

[wherein Ar^{11}, Ar^{12}, Ar^{13} and Ar^{14} each independently represent an arylene group or divalent heterocyclic group;

Ar^{15}, Ar^{16} and Ar^{17} each independently represent an arylene group or monovalent heterocyclic group; and

o and p each independently represent an integer of 0 or 1, and $0 \leq o+p \leq 1$] (paragraph [0073]).

64. With respect to claim 10, Oguma teaches the polymer light emitting material according to claim 1 further including at least one kind of materials selected from a light emitting material (paragraphs [0056]-[0058] and [0065]-[0069], formula (5), compounds 126-132).

65. With respect to claim 11, Oguma teaches the polymer light emitting material according to claim 1 comprising a compound exhibiting light emission from the triplet excited state in the form of a composition with a polymer compound having a repeating unit represented by the formula (1) or (2) (paragraphs [0056]-[0058] and [0065]-[0069], formula (5), compounds 126-132).

66. With respect to claim 13, Oguma teaches the polymer light emitting material according to claim 1 having a structure exhibiting light emission from the triplet excited state at a main chain of a polymer compound having a repeating unit represented by the formula (1) or (2) (paragraphs [0056]-[0058] and [0065]-[0069], formula (5), compounds 126-132).

67. With respect to claim 15, Oguma teaches the polymer light emitting material according to claim 11, wherein a compound or structure exhibiting light emission from the triplet excited state is a metal complex (paragraphs [0056]-[0058] and [0065]-[0069], formula (5), compounds 126-132).

68. With respect to claim 16, Oguma teaches an ink composition comprising a polymer light emitting material according to claim 1 (paragraph [0150]).

69. With respect to claim 17, Oguma teaches the ink composition according to claim 16 having 1 to 100 mPa·s of viscosity at 25°C (paragraph [0153]).

70. With respect to claim 18, Oguma teaches a light emitting thin film comprising a polymer light emitting material according to claim 1 (paragraph [0134]).

71. With respect to claim 19, Oguma teaches a conductive thin film comprising a polymer light emitting material according to claim 1 (paragraph [0133]).

72. With respect to claim 20, Oguma teaches an organic semiconductor thin film comprising a polymer light emitting material according to claim 1 (paragraph [0133]).

73. With respect to claim 21, Oguma teaches a polymer light emitting device having a layer comprising a polymer light emitting material according to claim 1 between electrodes consisting of an anode and a cathode (paragraph [0136]).

74. With respect to claim 22, Oguma teaches the polymer light emitting device according to claim 21, wherein the light emission layer further comprises a hole transporting material, an electron transporting material or a light-emitting material (paragraph [0139]).

75. With respect to claim 23, Oguma teaches a flat light source comprising a polymer light emitting device according to any of claims 21 to 22 (paragraph [0195]).

76. With respect to claim 24, Oguma teaches a segment display comprising a polymer light emitting device according to any of claims 21 to 22 (paragraph [0195]).

77. With respect to claim 25, Oguma teaches a dot matrix display comprising a polymer light emitting device according to any of claims 21 to 22 (paragraph [0195]).

78. With respect to claim 26, Oguma teaches a liquid crystal display comprising a backlight composed of a polymer light emitting device according to any of claims 21 to 22 (paragraph [0195]).

79. With respect to claim 27, Oguma teaches an illumination comprising a polymer light emitting device according to any of claims 21 to 22 (paragraph [0197]).

Claim Rejections - 35 USC § 103

80. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

81. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

82. Claims 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doi et al. (WO 2004039859) (US 2008/013865 is used as the US equivalent) (hereafter “Doi") as applied to claims 1-11, 13, and 15-27 above, and further in view of applicant’s admitted prior art (hereafter “AAPA”).

83. Regarding claim 12, Doi does not teach the polymer light emitting material according to claim 1 having a structure exhibiting light emission from the triplet excited state at a side chain of a polymer compound having a repeating unit represented by the formula (1) or (2).

84. AAPA teaches in the second paragraph under background art, the applicant admits that a polymer light emitting material can have triplet light emitting compound either as a mixture with the polymer, as a compound at side chain of the polymer, as a compound in the main chain of the polymer, or as a compound at the end of a polymer. The applicant admits that including a triplet light emitting compound in a polymer light emitting layer creates a light emitting device which exhibits high light emitting efficiency (first paragraph of background art).

85. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the polymer light emitting material according to claim 1, of Doi, so the material has a structure exhibiting light emission from the triplet excited state at a side chain of a polymer compound having a repeating unit represented by the formula (1) or (2). The motivation would have been to produce a light emitting device which exhibits high light emitting efficiency.

86. Regarding claim 14, Doi does not teach the polymer light emitting material according to claim 1 having a structure exhibiting light emission from the triplet excited state at an end of a polymer compound having a repeating unit represented by the formula (1) or (2).

87. AAPA teaches in the second paragraph under background art, the applicant admits that a polymer light emitting material can have triplet light emitting compound either as a mixture with the polymer, as a compound at side chain of the polymer, as a compound in the main chain of the polymer, or as a compound at the end of a polymer. The applicant admits that including a triplet light emitting compound in a polymer light emitting layer creates a light emitting device which exhibits high light emitting efficiency (first paragraph of background art).

88. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the polymer light emitting material according to claim 1, of Doi, so the material has a structure exhibiting light emission from the triplet excited state at an end of a polymer compound having a repeating unit represented by the formula

(1) or (2). The motivation would have been to produce a light emitting device which exhibits high light emitting efficiency.

89. Claims 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. (US 2003/0168656) (hereafter "Kobayashi") as applied to claims 1, 2, 6, 8-11, 13, 15, and 18-27 above, and further in view of applicant's admitted prior art (hereafter "AAPA").

90. Regarding claim 12, Kobayashi does not teach the polymer light emitting material according to claim 1 having a structure exhibiting light emission from the triplet excited state at a side chain of a polymer compound having a repeating unit represented by the formula (1) or (2).

91. AAPA teaches in the second paragraph under background art, the applicant admits that a polymer light emitting material can have triplet light emitting compound either as a mixture with the polymer, as a compound at side chain of the polymer, as a compound in the main chain of the polymer, or as a compound at the end of a polymer. The applicant admits that including a triplet light emitting compound in a polymer light emitting layer creates a light emitting device which exhibits high light emitting efficiency (first paragraph of background art).

92. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the polymer light emitting material according to claim 1, of Kobayashi, so the material has a structure exhibiting light emission from the triplet excited state at a side chain of a polymer compound having a repeating unit

represented by the formula (1) or (2). The motivation would have been to produce a light emitting device which exhibits high light emitting efficiency.

93. Regarding claim 14, Kobayashi does not teach the polymer light emitting material according to claim 1 having a structure exhibiting light emission from the triplet excited state at an end of a polymer compound having a repeating unit represented by the formula (1) or (2).

94. AAPA teaches in the second paragraph under background art, the applicant admits that a polymer light emitting material can have triplet light emitting compound either as a mixture with the polymer, as a compound at side chain of the polymer, as a compound in the main chain of the polymer, or as a compound at the end of a polymer. The applicant admits that including a triplet light emitting compound in a polymer light emitting layer creates a light emitting device which exhibits high light emitting efficiency (first paragraph of background art).

95. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the polymer light emitting material according to claim 1, of Kobayashi, so the material has a structure exhibiting light emission from the triplet excited state at an end of a polymer compound having a repeating unit represented by the formula (1) or (2). The motivation would have been to produce a light emitting device which exhibits high light emitting efficiency.

96. Claims 7, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. (US 2003/0168656) (hereafter “Kobayashi”) as applied to claims

1, 2, 6, 8-15, and 18-27 above, in view of applicant's admitted prior art (hereafter "AAPA"), and further in view of Oguma et al. (EP 1344788) (hereafter "Oguma").

97. With respect to claims 12 and 14, Kobayashi in view of AAPA is relied upon as stated above.

98. Regarding claim 7, Kobayashi in view of AAPA does not teach the polymer light emitting material according to claim 6 wherein the formula (5) is a repeating unit represented by the following formula (9), (10), (11), (12), (13) or (14).

99. Oguma teaches the polymer light emitting material according to claim 6 wherein the formula (5) is a repeating unit represented by the following formula (9), (10), (11), (12), (13) or (14) (paragraphs [0070]-[0072], formulae (7)-(12)):

Formula (9) (formula (7)) [wherein R^{24} represents a halogen atom, alkyl group, alkyloxy group, alkylthio group, aryl group, aryloxy group, arylthio group, arylalkyl group, arylalkyloxy group, arylalkylthio group, acyl group, acyloxy group, amide group, acid imide group, imine residue, amino group, substituted amino group, substituted silyl group, substituted silyloxy group, substituted silylthio group, substituted silylamino group, monovalent heterocyclic group, heteroaryloxy group, heteroarylthio group, arylalkenyl group, arylethynyl group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group. c represents an integer of 0 to 4] (paragraphs [0070]-[0072]);

Formula (10) (formula (8)) [wherein R^{25} and R^{26} each independently represent a halogen atom, alkyl group, alkyloxy group, alkylthio group, aryl group, aryloxy group, arylthio group, arylalkyl group, arylalkyloxy group, arylalkylthio group, acyl group,

acyloxy group, amide group, acid imide group, imine residue, amino group, substituted amino group, substituted silyl group, substituted silyloxy group, substituted silylthio group, substituted silylamino group, monovalent heterocyclic group, heteroaryloxy group, heteroarylthio group, arylalkenyl group, arylethynyl group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group;

d and e each independently represent an integer of 0 to 3] (paragraphs [0070]-[0072]);

Formula (11) (formula (9)) [wherein R^{27} and R^{30} each independently represent a halogen atom, alkyl group, alkyloxy group, alkylthio group, aryl group, aryloxy group, arylthio group, arylalkyl group, arylalkyloxy group, arylalkylthio group, acyl group, acyloxy group, amide group, acid imide group, imine residue, amino group, substituted amino group, substituted silyl group, substituted silyloxy group, substituted silylthio group, substituted silylamino group, monovalent heterocyclic group, heteroaryloxy group, heteroarylthio group, arylalkenyl group, arylethynyl group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group;

R^{28} and R^{29} each independently represent a hydrogen atom, alkyl group, aryl group, monovalent heterocyclic group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group] (paragraphs [0070]-[0072]);

Formula (12) (formula (10)) [wherein R^{31} represents a halogen atom, alkyl group, alkyloxy group, alkylthio group, aryl group, aryloxy group, arylthio group, arylalkyl group, arylalkyloxy group, arylalkylthio group, acyl group, acyloxy group, amide group, acid imide group, imine residue, amino group, substituted amino group, substituted silyl group, substituted silyloxy group, substituted silylthio group, substituted silylamino group, monovalent heterocyclic group, heteroaryloxy group, heteroarylthio group, arylalkenyl group, arylethynyl group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group;

h represents an integer of 0 to 2. Ar^8 and Ar^9 each independently represent an arylene group, divalent heterocyclic group or divalent group having a metal complex structure;

i and j each independently represent an integer of 0 or 1;

X^8 represents O, S, SO, SO_2, Se or Te] (paragraphs [0070]-[0072]);

Formula (13) (formula (11)) [wherein R^{32} and R^{33} each independently represent a halogen atom, alkyl group, alkyloxy group, alkylthio group, aryl group, aryloxy group, arylthio group, arylalkyl group, arylalkyloxy group, arylalkylthio group, acyl group, acyloxy group, amide group, acid imide group, imine residue, amino group, substituted amino group, substituted silyl group, substituted silyloxy group, substituted silylthio group, substituted silylamino group, monovalent heterocyclic group, heteroaryloxy group, heteroarylthio group, arylalkenyl group, arylethynyl group, carboxyl group,

alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group;

k and l each independently represent an integer of 0 to 4;

X^9 represents O, S, SO, SO_2, Se, Te, N-R^{34} or $SiR^{35}R^{36}$;

X^{10} and X^{11} each independently represent N or C-R^{37}. R^{34}, R^{35}, R^{36} and R^{37} each independently represent a hydrogen atom, alkyl group, aryl group, arylalkyl group or monovalent heterocyclic group] (paragraphs [0070]-[0072]); and

Formula (14) (formula (12)) [wherein R^{38} and R^{43} each independently represent a halogen atoms, alkyl group, alkyloxy group, alkylthio group, aryl group, aryloxy group, arylthio group, arylalkyl group, arylalkyloxy group, arylalkylthio group, acyl group, acyloxy group, amide group, acid imide group, imine residue, amino group, substituted amino group, substituted silyl group, substituted silyloxy group, substituted silylthio group, substituted silylamino group, monovalent heterocyclic group, heteroaryloxy group, heteroarylthio group, arylalkenyl group, arylethynyl group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group;

m and n each independently represent an integer of 0 to 4;

R^{39}, R^{40}, R^{41} and R^{42} each independently represent a hydrogen atom, alkyl group, aryl group, monovalent heterocyclic group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group and

Ar^{10} represents an arylene group, divalent heterocyclic group or divalent group having a metal complex structure] (paragraphs [0070]-[0072]) to produce a polymer compound usable for a light-emitting material or a charge transporting material and produce a polymer light-emitting device (paragraph [0003]).

100. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the polymer light emitting material according to claim 6, of Kobayashi in view of AAPA, wherein the formula (5) is a repeating unit represented by the following formula (9), (10), (11), (12), (13) or (14) as taught by Oguma. The motivation would have been to produce a polymer compound usable for a light-emitting material or a charge transporting material and produce a polymer light-emitting device.

101. Regarding claim 16, Kobayashi in view of AAPA does not teach an ink composition comprising a polymer light emitting material according to claim 1.

102. Oguma teaches an ink composition comprising a polymer light emitting material according to claim 1 (paragraph [0150]) to produce a polymer compound usable for a light-emitting material or a charge transporting material and produce a polymer light-emitting device (paragraph [0003]).

103. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the polymer light emitting material according to claim 1, of Kobayashi in view of AAPA, so the material was an ink composition comprising. The motivation would have been to produce a polymer compound usable for a light-emitting material or a charge transporting material and produce a polymer light-emitting device.

104. Regarding claim 17, Kobayashi in view of AAPA does not teach the ink composition according to claim 16 having 1 to 100 mPa·s of viscosity at 25°C.

105. Oguma teaches the ink composition according to claim 16 having 1 to 100 mPa·s of viscosity at 25°C (paragraph [0153]) to produce a polymer compound usable for a light-emitting material or a charge transporting material and produce a polymer light-emitting device (paragraph [0003]).

106. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the polymer light emitting material according to claim 1, of Kobayashi in view of AAPA, so the material was an ink composition comprising having 1 to 100 mPa·s of viscosity at 25°C. The motivation would have been to produce a polymer compound usable for a light-emitting material or a charge transporting material and produce a polymer light-emitting device.

107. Claims 1 and 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. (US 2003/0168656) (hereafter “Kobayashi”) as applied to claims 1, 2, 6, 8-15, and 18-27 above, in view of applicant’s admitted prior art (hereafter “AAPA”), and further in view of Marrocco, III et al. (US 2002/0028347) (hereafter “Marrocco").

108. With respect to claims 12 and 14, Kobayashi in view of AAPA is relied upon as stated above.

109. Regarding claim 1, Kobayashi in view of AAPA does not teach a polymer light emitting material which contains a polymer compound comprising a repeating unit of the following formula (2).

110. Marrocco teaches a polymer light emitting material which contains a polymer compound comprising a repeating unit of the following formula (2) and which exhibits light emission from the triplet excited state (abstract, paragraphs [0012]-[0014], formula II)

[wherein X^3 and X^4 each independently represent N or $C(R^9)$, (wherein R^9 independently represents a hydrogen atom, halogen atom, alkyl group, alkyloxy group, aryl group, or aryloxy group);

X^3 and X^4 are not the same; and X^3 and Ar^4 bond to adjacent carbon atoms in the aromatic ring of Ar^3, and X^4 and Ar^3 bond to adjacent carbon atoms in the aromatic ring of Ar^4] (paragraphs [0012]-[0014], formula II) to produce an OLED device with higher efficiency and longer lifetime (paragraph [0021]).

111. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the polymer light emitting material, of Kobayashi in view of AAPA, to contain a polymer compound comprising a repeating unit of the following formula (2). The motivation would have been to produce an OLED device with higher efficiency and longer lifetime.

112. Regarding claims 3-5, Kobayashi in view of AAPA does not teach the further limitations of the repeating unit of formula (1) set about in claims 3-5.

113. Marrocco does not teach the further limitations of the repeating unit of formula (1) set about in claims 3-5, but claim 3-5 are not limited to polymers having a repeating unit of formula (1). Since Marrocco does teach a polymer light emitting material which contains a polymer compound comprising a repeating unit of the following formula (2)

(paragraphs [0012]-[0014], formula II), X^3 and X^4 are not the same (paragraphs [0012]-[0014], formula II, when X^1 is N and X^2 is $C(R^9)$); and X^3 and Ar^4 bond to adjacent carbon atoms in the aromatic ring of Ar^3, and X^4 and Ar^3 bond to adjacent carbon atoms in the aromatic ring of Ar^4 (paragraphs [0012]-[0014], formula II), to produce an OLED device with higher efficiency and longer lifetime (paragraph [0021]).

114. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the polymer light emitting material, of Kobayashi in view of AAPA, to contain a polymer compound comprising a repeating unit of the following formula (2). By modifying Kobayashi in view of AAPT to include a polymer compound comprising a repeating unit of formula (2), the material then reads on claims 3-5, since claims are not only limited to polymers having a repeating unit of formula (1) but also of a repeating unit of formula (2). Therefore, the polymer materials in claims 3-5 does not need to have the limitations of repeating unit of formula (1), since the polymer materials will contain a repeating unit of formula (2). The motivation would have been to produce an OLED device with higher efficiency and longer lifetime.

Double Patenting

115. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422

F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

116. A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

117. Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

118. Claims 1-27 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9, 23-26, and 28-30 of copending Application No. 10/532,937 (Doi et al.) (hereafter "Doi") in view of applicant's admitted prior art (hereafter "AAPA"). Although the conflicting claims are not identical, they are not patentably distinct from each other.

119. Regarding claim 1 of the instant application, with respect to claim 1 of Doi, Doi claims a polymer light emitting material which contains a polymer compound comprising a repeating unit of the following formula (1) or (2) and having a polystyrene-reduced number-average molecular weight of 10^3 to 10^8

[wherein Ar^1 and Ar^2 each independently represent a trivalent aromatic hydrocarbon group or a trivalent heterocyclic group;

X^1 and X^2 each independently represent O, S, C(=O), S(=O), SO_2, $C(R^1)(R^2)$, $Si(R^3)(R^4)$, $N(R^5)$, $B(R^6)$, $P(R^7)$ or $P(=O)(R^8)$, (wherein R^1, R^2, R^3, R^4, R^5, R^6, R^7 and R^8 each independently represent a hydrogen atom, halogen atom, alkyl group, alkyloxy group, alkylthio group, aryl group, aryloxy group, arylthio group, arylalkyl group, arylalkyloxy group, arylalkylthio group, acyl group, acyloxy group, amide group, acid

imide group, imine residue, amino group, substituted amino group, substituted silyl group, substituted silyloxy group, substituted silylthio group, substituted silylamino group, monovalent heterocyclic group, heteroaryloxy group, heteroarylthio group, arylalkenyl group, arylethynyl group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryloxycarbonyl group or cyano group;

(R^1 and R^2) or (R^3 and R^4) may mutually be connected to form a ring); wherein X^1 and X^2 are not the same excepting the case of S or $Si(R^3)(R^4)$;

X^1 and Ar^2 bond to adjacent carbon atoms in the aromatic ring of Ar^1, and X^2 and Ar^1 bond to adjacent carbon atoms in the aromatic ring of Ar^2;

[wherein Ar^3 and Ar^4 each independently represent a trivalent aromatic hydrocarbon group or a trivalent heterocyclic group;

X^3 and X^4 each independently represent N, B, P, $C(R^9)$ or $Si(R^{10})$, (wherein R^9 and R^{10} each independently represent a hydrogen atom, halogen atom, alkyl group, alkyloxy group, alkylthio group, aryl group, aryloxy group, arylthio group, arylalkyl group, arylalkyloxy group, arylalkylthio group, acyl group, acyloxy group, amide group, acid imide group, imine residue, amino group, substituted amino group, substituted silyl group, substituted silyloxy group, substituted silylthio group, substituted silylamino group, monovalent heterocyclic group, heteroaryloxy group, heteroarylthio group, arylalkenyl group, arylethynyl group, carboxyl group, alkoxycarbonyl group, aryloxycarbonyl group, arylalkyloxycarbonyl group, heteroaryl-oxycarbonyl group or cyano group);

X^3 and X^4 are not the same; and X^3 and Ar^4 bond to adjacent carbon atoms in the aromatic ring of Ar^3, and X^4 and Ar^3 bond to adjacent carbon atoms in the aromatic ring of Ar^4].

120. Doi does not claim a polymer light emitting material which exhibits light emission from the triplet excited state.

121. In the specification Doi teaches a polymer light emitting material which exhibits light emission from the triplet excited state (paragraphs [0071] and [0079]-[0081]) to produce a new polymer compound having strong light emission strength (paragraph [0003]).

122. Given the teachings of Doi in the specification it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the polymer complex compound, of Doi, wherein the polymer light emitting material exhibits light emission from the triplet excited state to arrive at the claimed invention. One of ordinary skill in the art would have been motivated to produce a new polymer compound having strong light emission strength.

123. Regarding claim 2 of the instant application, with respect to claim 2 of Doi, claim 2 only differs from claim 2 of Doi for the same reasons claim 1 of the instant application differs from claim 1 of Doi as described above. Therefore, claim 2 of Doi would be modified in the same obvious manner as claim 1 above to arrive at the claimed invention.

124. Regarding claim 3 of the instant application, with respect to claim 3 of Doi, claim 3 only differs from claim 3 of Doi for the same reasons claim 1 of the instant application

differs from claim 1 of Doi as described above. Therefore, claim 3 of Doi would be modified in the same obvious manner as claim 1 above to arrive at the claimed invention.

125. Regarding claim 4 of the instant application, with respect to claim 4 of Doi, claim 4 only differs from claim 4 of Doi for the same reasons claim 1 of the instant application differs from claim 1 of Doi as described above. Therefore, claim 4 of Doi would be modified in the same obvious manner as claim 1 above to arrive at the claimed invention.

126. Regarding claim 5 of the instant application, with respect to claim 5 of Doi, claim 5 only differs from claim 5 of Doi for the same reasons claim 1 of the instant application differs from claim 1 of Doi as described above. Therefore, claim 5 of Doi would be modified in the same obvious manner as claim 1 above to arrive at the claimed invention.

127. Regarding claim 6 of the instant application, with respect to claim 6 of Doi, claim 6 only differs from claim 6 of Doi for the same reasons claim 1 of the instant application differs from claim 1 of Doi as described above. Therefore, claim 6 of Doi would be modified in the same obvious manner as claim 1 above to arrive at the claimed invention.

128. Regarding claim 7 of the instant application, with respect to claim 7 of Doi, claim 7 only differs from claim 7 of Doi for the same reasons claim 1 of the instant application differs from claim 1 of Doi as described above. Therefore, claim 7 of Doi would be

modified in the same obvious manner as claim 1 above to arrive at the claimed invention.

129. Regarding claim 8 of the instant application, with respect to claim 8 of Doi, claim 8 only differs from claim 8 of Doi for the same reasons claim 1 of the instant application differs from claim 1 of Doi as described above. Therefore, claim 8 of Doi would be modified in the same obvious manner as claim 1 above to arrive at the claimed invention.

130. Regarding claim 9 of the instant application, with respect to claim 9 of Doi, claim 9 only differs from claim 9 of Doi for the same reasons claim 1 of the instant application differs from claim 1 of Doi as described above. Therefore, claim 9 of Doi would be modified in the same obvious manner as claim 1 above to arrive at the claimed invention.

131. Regarding claim 10 of the instant application, with respect to claim 23 of Doi, claim 10 only differs from claim 23 of Doi for the same reasons claim 1 of the instant application differs from claim 1 of Doi as described above. Therefore, claim 23 of Doi would be modified in the same obvious manner as claim 1 above to arrive at the claimed invention.

132. Regarding claim 11 of the instant application, with respect to claim 1 of Doi, claim 11 only differs from claim 1 of Doi for the same reasons claim 1 of the instant application differs from claim 1 of Doi as described above. Therefore, claim 1 of Doi would be modified in the same obvious manner as claim 1 above to arrive at the claimed invention.

133. Regarding claim 12 of the instant application, with respect to modified claim 1 of Doi, modified claim 1 of Doi does not claim a polymer light emitting material according to claim 1 having a structure exhibiting light emission from the triplet excited state at a side chain of a polymer compound having a repeating unit represented by the formula (1) or (2).

134. AAPA teaches in the second paragraph under background art, the applicant admits that a polymer light emitting material can have triplet light emitting compound either as a mixture with the polymer, as a compound at side chain of the polymer, as a compound in the main chain of the polymer, or as a compound at the end of a polymer. The applicant admits that including a triplet light emitting compound in a polymer light emitting layer creates a light emitting device which exhibits high light emitting efficiency (first paragraph of background art).

135. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the polymer light emitting material according to claim 1, of modified claim 1 of Doi, so the material has a structure exhibiting light emission from the triplet excited state at a side chain of a polymer compound having a repeating unit represented by the formula (1) or (2). The motivation would have been to produce a light emitting device which exhibits high light emitting efficiency.

136. Regarding claim 13 of the instant application, with respect to claim 1 of Doi, claim 13 only differs from claim 1 of Doi for the same reasons claim 1 of the instant application differs from claim 1 of Doi as described above. Therefore, claim 1 of Doi

would be modified in the same obvious manner as claim 1 above to arrive at the claimed invention.

137. Regarding claim 14 of the instant application, with respect to modified claim 1 of Doi, modified claim 1 of Doi does not claim the polymer light emitting material according to claim 1 having a structure exhibiting light emission from the triplet excited state at an end of a polymer compound having a repeating unit represented by the formula (1) or (2).

138. AAPA teaches in the second paragraph under background art, the applicant admits that a polymer light emitting material can have triplet light emitting compound either as a mixture with the polymer, as a compound at side chain of the polymer, as a compound in the main chain of the polymer, or as a compound at the end of a polymer. The applicant admits that including a triplet light emitting compound in a polymer light emitting layer creates a light emitting device which exhibits high light emitting efficiency (first paragraph of background art).

139. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the polymer light emitting material according to claim 1, of modified claim 1 of Doi, so the material has a structure exhibiting light emission from the triplet excited state at an end of a polymer compound having a repeating unit represented by the formula (1) or (2). The motivation would have been to produce a light emitting device which exhibits high light emitting efficiency.

140. Regarding claim 15 of the instant application, with respect to claim 1 of Doi, claim 15 only differs from claim 1 of Doi for the same reasons claim 1 of the instant

application differs from claim 1 of Doi as described above. Therefore, claim 1 of Doi would be modified in the same obvious manner as claim 1 above to arrive at the claimed invention.

141. Regarding claim 16 of the instant application, with respect to claim 24 of Doi, claim 16 only differs from claim 24 of Doi for the same reasons claim 1 of the instant application differs from claim 1 of Doi as described above. Therefore, claim 24 of Doi would be modified in the same obvious manner as claim 1 above to arrive at the claimed invention.

142. Regarding claim 17, Doi does not claim the ink composition according to claim 16 having 1 to 100 mPa·s of viscosity at 25°C.

143. In the specification Doi teaches the ink composition according to claim 16 having 1 to 100 mPa·s of viscosity at 25°C (paragraph [0250]) to produce a new polymer compound having strong light emission strength and a polymer light-emitting device using said polymer compound (paragraph [0003]).

144. Given the teachings of Doi in the specification it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the ink composition, of Doi, wherein the ink composition would have a viscosity of 1 to 100 mPa·s at 25°C to arrive at the claimed invention. One of ordinary skill in the art would have been motivated to produce a new polymer compound having strong light emission strength and a polymer light-emitting device using said polymer compound.

145. Regarding claim 18 of the instant application, with respect to claim 25 of Doi, claim 18 only differs from claim 25 of Doi for the same reasons claim 1 of the instant

application differs from claim 1 of Doi as described above. Therefore, claim 25 of Doi would be modified in the same obvious manner as claim 1 above to arrive at the claimed invention.

146. Regarding claim 19 of the instant application, with respect to claim 25 of Doi, claim 19 only differs from claim 25 of Doi for the same reasons claim 1 of the instant application differs from claim 1 of Doi as described above. Therefore, claim 25 of Doi would be modified in the same obvious manner as claim 1 above to arrive at the claimed invention.

147. Regarding claim 20 of the instant application, with respect to claim 25 of Doi, claim 20 only differs from claim 25 of Doi for the same reasons claim 1 of the instant application differs from claim 1 of Doi as described above. Therefore, claim 25 of Doi would be modified in the same obvious manner as claim 1 above to arrive at the claimed invention.

148. Regarding claim 21 of the instant application, with respect to claim 26 of Doi, claim 21 only differs from claim 26 of Doi for the same reasons claim 1 of the instant application differs from claim 1 of Doi as described above. Therefore, claim 26 of Doi would be modified in the same obvious manner as claim 1 above to arrive at the claimed invention.

149. Regarding claim 22 of the instant application, with respect to claim 28 of Doi, claim 22 only differs from claim 28 of Doi for the same reasons claim 1 of the instant application differs from claim 1 of Doi as described above. Therefore, claim 28 of Doi

would be modified in the same obvious manner as claim 1 above to arrive at the claimed invention.

150. Regarding claim 23 of the instant application, with respect to claim 29 of Doi, claim 23 only differs from claim 29 of Doi for the same reasons claim 1 of the instant application differs from claim 1 of Doi as described above. Therefore, claim 29 of Doi would be modified in the same obvious manner as claim 1 above to arrive at the claimed invention.

151. Regarding claim 24 of the instant application, with respect to claim 29 of Doi, claim 24 only differs from claim 29 of Doi for the same reasons claim 1 of the instant application differs from claim 1 of Doi as described above. Therefore, claim 29 of Doi would be modified in the same obvious manner as claim 1 above to arrive at the claimed invention.

152. Regarding claim 25 of the instant application, with respect to claim 29 of Doi, claim 25 only differs from claim 29 of Doi for the same reasons claim 1 of the instant application differs from claim 1 of Doi as described above. Therefore, claim 29 of Doi would be modified in the same obvious manner as claim 1 above to arrive at the claimed invention.

153. Regarding claim 26 of the instant application, with respect to claim 30 of Doi, claim 26 only differs from claim 30 of Doi for the same reasons claim 1 of the instant application differs from claim 1 of Doi as described above. Therefore, claim 30 of Doi would be modified in the same obvious manner as claim 1 above to arrive at the claimed invention.

154. Regarding claim 27, Doi does not claim an illumination comprising a polymer light emitting device according to any of claims 21 to 22.

155. In the specification Doi teaches an illumination comprising a polymer light emitting device according to any of claims 21 to 22 (paragraphs [0231] and [0295]-[0297]) to produce a new polymer compound having strong light emission strength and a polymer light-emitting device using said polymer compound (paragraph [0003]).

156. Given the teachings of Doi in the specification it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify a polymer light emitting device according to any of claims 21 to 22 to be used an illumination device to arrive at the claimed invention. One of ordinary skill in the art would have been motivated to produce a new polymer compound having strong light emission strength and a polymer light-emitting device using said polymer compound.

157. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew K. Bohaty whose telephone number is (571)270-1148. The examiner can normally be reached on Monday through Thursday 7:30 am to 5:00 pm EST and every other Friday from 7:30 am to 4 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael LaVilla can be reached on (571)272-1539. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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